



Amplifiers

DX200.2

DX300.4

DX500.1

DX1000.1

DX2000.1

Installation & Operation

INTRODUCTION

INNOVATE OR DISINTEGRATE

Thank you for purchasing the ELEVATION AUDIO Amplifier.

Our customers have come to expect that ELEVATION AUDIO pushes the edge in audio. Now we will push the edge in the amplifier and woofer business with high value and high performance models.

If, after reading your manual, you still have questions regarding this product, we recommend that you see your ELEVATION AUDIO dealer. If you need further assistance, you can call us Direct at 1-315-853-5831. Be sure to have your serial number, model number and the dated proof of purchase available when you call.

The serial number can be found on the outside of the box. Please record it in the space provided below as your permanent record. This will serve as verification of your factory warranty and may become useful in recovering your amplifier if it is ever stolen.

Serial Number: _____

Model Number: _____

TABLE OF CONTENTS

Introduction	2	Operation.....	9
Safety Instructions	3	Adjusting Gain	9
Design Features	3~4	Adjusting Crossover (X-Over)	9
Installation	4~9	Subsonic Filter (DX500.1/1000.1/2000.1).....	9
Installation Considerations	4	Strapping Amplifiers (DX500.1/1000.1/2000.1)	10
Mounting Locations	5	Troubleshooting	10
Battery and Charging	5	Specifications	11
Wiring the System	5~8		
Remote Level Control (DX500.1/1000.1/2000.1)	8		

NOTE: Review each section for more detailed information.

PRACTICE SAFE SOUND™

Continuous exposure to sound pressure levels over 100dB may cause permanent hearing loss. High powered auto sound systems may produce sound pressure levels well over 130dB. Use common sense and practice safe sound.

SAFETY INSTRUCTION

WARNING

This symbol with "WARNING" is intended to alert the user to the presence of important instructions. Failure to heed the instructions will result in severe injury or death.

CAUTION

This symbol with "CAUTION" is intended to alert the user to the presence of important instructions. Failure to heed the instructions can result in injury or unit damage.

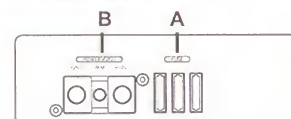
CAUTION: To prevent injury and damage to the unit, please read and follow the instructions in this manual. We want you to have enjoyment from this system, not a headache.

CAUTION: If you feel unsure about installing this system yourself, have it installed by a qualified ELEVATION AUDIO technician.

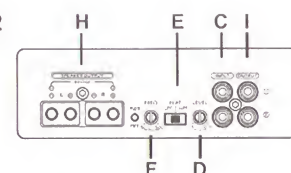
CAUTION: Before installation, disconnect the battery negative (-) terminal to prevent damage to the unit, fire and/or possible injury.

DESIGN FEATURES

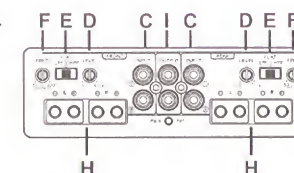
Power Connections



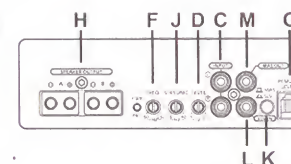
DX200.2



DX300.4



DX500.1 / 1000.1 / 2000.1



- A. Power Fuse: If this Fuse should blow, determine the cause or see your authorized dealer. Never replace the fuse with one of greater value than the original.
- B. Power Connector terminals: Connects Power, Ground, and Remote.
- C. RCA Input Jacks - Line Level from Radio Pre-outs: The industry standard RCA jack provides an easy connection for signal level input. They are platinum to resist the signal degradation caused by corrosion.

DESIGN FEATURES

- D. Level Control: The input gain control is preset to match the output of most source units. This can be adjusted to match output levels from a variety of source units.
- E. Crossover Filter Switch: High for High Pass - Mid-Tweeter .
Flat for All Pass - Full Range.
Low for Low Pass - Subs.
- F. Adjustable Crossover Frequency Control: 50-500Hz @ 12dB/octave. 50-250Hz Low Pass (Model DX500.1 / 1000.1 / 2000.1).
- G. Remote Level Control: (Model DX500.1 / 1000.1 / 2000.1) Attenuates Gain set on the amplifier by up to -12dB.
- H. Speaker Connections: Follow correct polarity, and do not Ground any speaker wires. Do not connect any speaker wires together.
- I. Pass Thru Outputs: The Pass-Thru provides a convenient source for daisy-chaining an additional amplifier without running an extra set of RCA cables from the front of the vehicle to the rear amplifier location.
- J. Subsonic Control: (Model DX500.1 / 1000.1 / 2000.1) A variable 15-40Hz high pass filter designed to prevent frequencies below the audio range from being applied to the subwoofer from the amplifier. Improving subwoofer performance and power handling.
- K. Master / Slave Switch: (Model DX500.1 / 1000.1 / 2000.1) Used to set the amplifier to master or slave when strapping.
- L. SLV IN (slave): (Model DX500.1 / 1000.1 / 2000.1) When strapping, this is the slaved amplifier input from the master amplifier
- M. MAS OUT (master): (Model DX500.1 / 1000.1 / 2000.1) When strapping, this is the master amplifier output to the slave amplifier

INSTALLATION

INSTALLATION CONSIDERATIONS

The following is a list of tools needed for installation:

Volt/Ohm Meter	Hand held drill w/assorted bits
Wire strippers	1/8" diameter heatshrink tubing
Wire crimpers	Assorted connectors
Wire cutters	Adequate Length - Power Wire
# 2 Phillips screwdriver	Adequate Length - Remote Turn-on Wire
	Adequate Length - Grounding Wire

This section focuses on some of the vehicle considerations for installing your new Amplifier. Pre-planning your system layout and best wiring routes will save installation time. When deciding on the layout of your new system, be sure that each component will be easily accessible for making adjustments.

CAUTION: If you feel unsure about installing this system yourself, have it installed by a qualified technician.

CAUTION: Before installation, disconnect the battery negative (-) terminal to prevent damage to the unit, fire and/or possible injury .

Before beginning any installation, follow these simple rules:

1. Be sure to carefully read and understand the instructions before attempting to install the unit.
2. For safety, disconnect the negative lead from the battery prior to beginning the installation.
3. For easier assembly, we suggest you run all wires prior to mounting your unit in place.
4. Route all of the RCA cables close together and away from any high current wires.

INSTALLATION

5. Use high quality connectors for a reliable installation and to minimize signal or power loss.
6. Think before you drill! Be careful not to cut or drill into gas tanks, fuel lines, brake or hydraulic lines, vacuum lines or electrical wiring when working on any vehicle.
7. Never run wires underneath the vehicle. Running the wires inside the vehicle provides the best protection.
8. Avoid running wires over or through sharp edges. Use rubber or plastic grommets to protect any wires routed through metal, especially the firewall.
9. ALWAYS protect the battery and electrical system from damage with proper fusing. Install the appropriate fuse holder and fuse on the +12V power wire within 180" (45.7 cm) of the battery terminal.
10. When grounding to the chassis of the vehicle, scrape all paint from the metal to ensure a good, clean ground connection. Grounding connections should be as short as possible and always be connected to metal that is welded to the main body, or chassis, of the vehicle.

MOUNTING LOCATIONS

The mounting position of your amplifier will have a great effect on the sound and performance produced.

Engine Compartment

Never mount this unit in the engine compartment. Mounting the unit in the engine compartment will void your warranty .

Passenger Compartment Mounting

Mounting the amplifier in the passenger compartment will work as long as you provide a sufficient amount of air for the amplifier to cool itself. If you are going to mount the amplifier under the seat of the vehicle, you must have at least 1" (2.54cm) of air gap around the amplifier's heatsink.

Mounting the amplifier with less than 1" (2.54cm) of air gap around the amplifier's heatsink in the passenger compartment will not provide proper cooling and will severely affect the performance of the amplifier and is strongly not recommended.

BATTERY AND CHARGING

Amplifiers will put an increased load on the vehicle's battery and charging system. We recommend checking your alternator and battery condition to ensure that the electrical system has enough capacity to handle the increased load of your stereo system. Stock electrical systems which are in good condition should be able to handle the extra load of any Lightning Audio amplifier without problems, although battery and alternator life can be reduced slightly. To maximize the performance of your amplifier, we suggest the use of a heavy duty battery and an energy storage capacitor.

WIRING THE SYSTEM

CAUTION: If you do not feel comfortable with wiring your new unit, please see your local Authorized ELEVATION AUDIO dealer for installation.

CAUTION: Before installation, disconnect the battery negative (-) terminal to prevent damage to the unit, fire and/or possible injury.

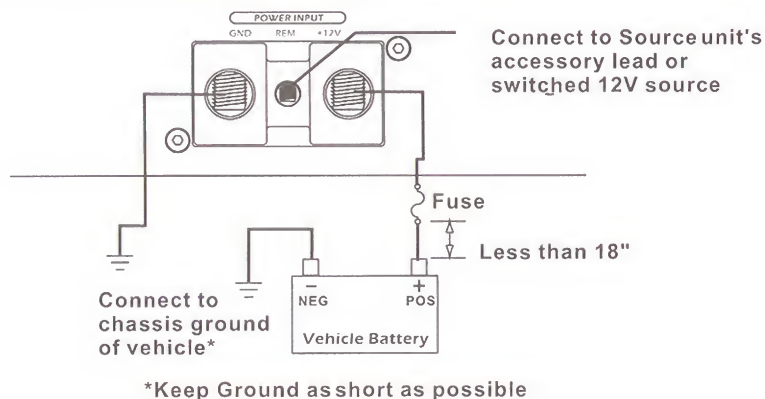
CAUTION: Avoid running power wires near the low level input cables, antenna, power leads, sensitive equipment or harnesses. The power wires carry substantial current and could induce noise into the audio system.

1. Plan the wire routing. Keep RCA cables close together but isolated from the amplifier's power cables and any high power auto accessories, especially electric motors. This is done to prevent coupling the noise from radiated electrical fields into the audio signal. When feeding the wires through the firewall or any metal barrier, protect them with plastic or rubber grommets to prevent short circuits. Leave the wires long at this point to adjust for a precise fit at a later time.

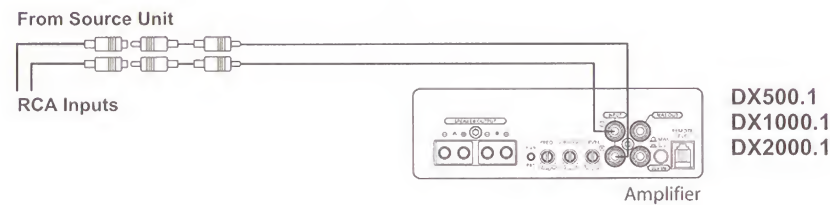
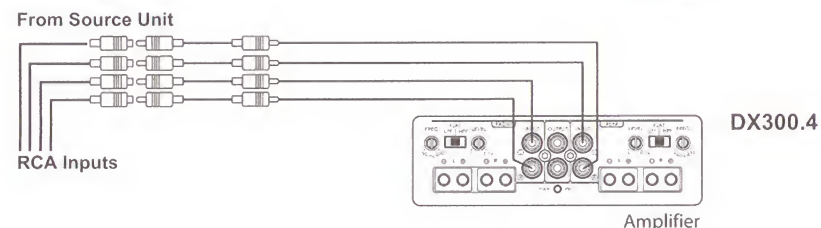
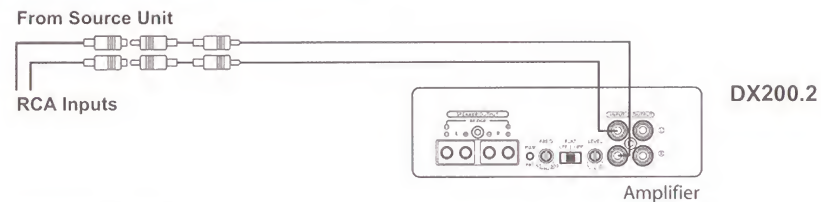
INSTALLATION

2. Prepare the power cable for attachment to the amplifier by stripping 1/2" of insulation from the end of the wire. Insert the bared wire into the B+ terminal and tighten the set screw to secure the cable in place.
- NOTE:** The B+ cable **MUST** be fused 18" or less from the vehicle's battery. Install the fuse holder under the hood and prepare the cable ends as stated above. Connections should be water tight.
3. Trim the power cable within 18" of the battery and strip 1/2" of insulation from the end of the wire.
4. Strip 1/2" from the battery end of the power cable and crimp a large ring terminal to the cable. Use the ring terminal to connect to the battery positive terminal. **DO NOT** install the fuse at this time.
5. Prepare the grounding cable for attachment to the amplifier by stripping 1/2" of insulation from the end of the wire. Insert the bared wire into the GND terminal and tighten the set screw to secure the cable in place. Prepare the chassis ground by scraping any paint from the metal surface and thoroughly clean the area of all dirt and grease. Strip the other end of the wire and attach a ring connector. Fasten the cable to the chassis using a non-anodized screw and a star washer.
6. Prepare the REM turn-on wire for connection to the amplifier by stripping 1/2" of insulation from the wire end. Insert the bared wire into the REM terminal and tighten the set screw to secure the cable into place. Connect the other end of the REM wire to a switched 12 volt positive source. The switched voltage is usually taken from the source unit's accessory lead. If the source unit does not have this output available, the recommended solution is to wire a mechanical switch in line with a 12 volt source to activate the amplifier.
7. Securely mount the amplifier to the vehicle or amp rack. Be careful not to mount the amplifier on cardboard or plastic panels. Doing so may enable the screws to pull out from the panel due to road vibration or sudden vehicle stops.
8. Connect the source signal to the amplifier by plugging the RCA cables/high level inputs into the input jacks at the amplifier.
9. Connect the speakers. Strip the speaker wires 1/2" and insert into the speaker terminal and tighten the set screw to secure into place. Be sure to maintain proper speaker polarity. **DO NOT** chassis ground any of the speaker leads as unstable operation may result.
10. Perform a final check of the completed system wiring to ensure that all connections are accurate. Check all power and ground connections for frayed wires and loose connections which could cause problems.

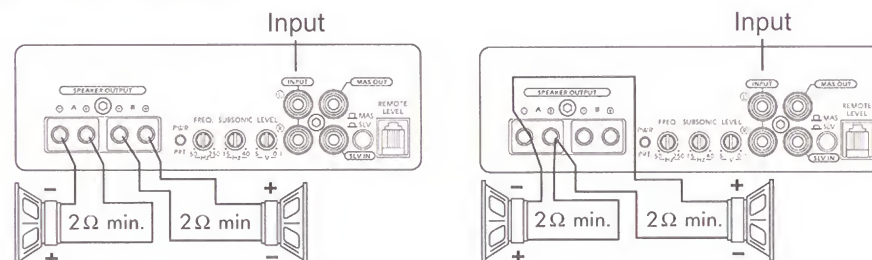
NOTE: Follow the diagrams for proper signal polarity.



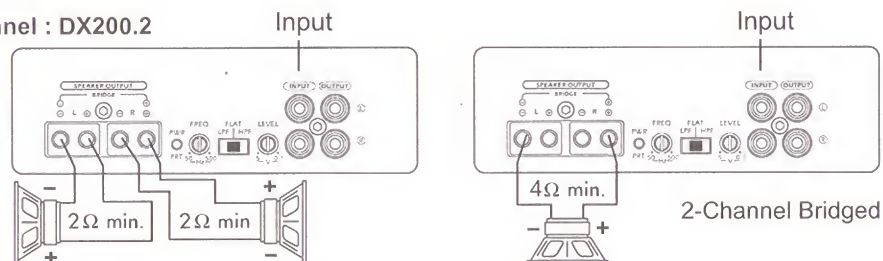
INSTALLATION



Mono : DX500.1 / DX1000.1 / DX2000.1

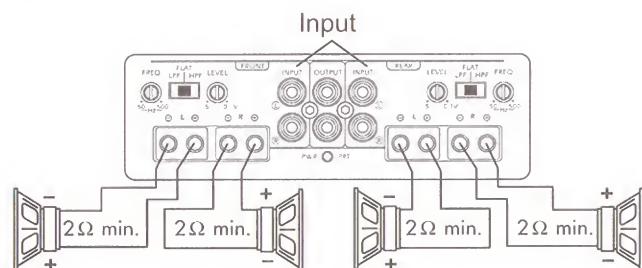


2-Channel : DX200.2



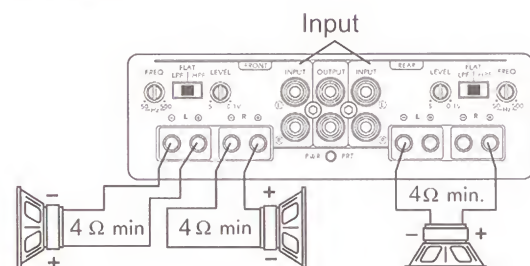
INSTALLATION

4-Channel : DX300.4



4-Channel : DX300.4

Set as 3-Channel Bridged

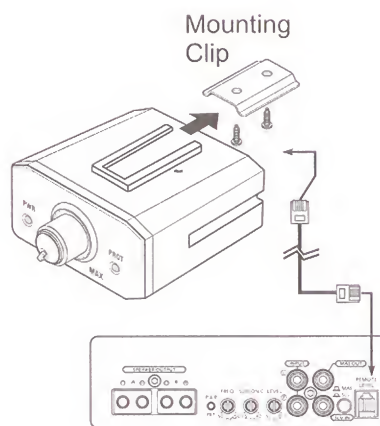


REMOTE LEVEL CONTROL

(Only usable in LP Low Pass mode)
(Model DX500.1/1000.1/2000.1)

Mounting and installation

1. Find a location, either under the dash or near the center console, that gives easy access to the remote.
2. Using the screws supplied, install the mounting clip with the tabs towards the back.
3. Route the cable for the remote and connect to both the remote and amplifier.
4. Slip the remote onto the mounting clip until it snaps into place.



OPERATION

ADJUSTING GAIN

To adjust the gain setting, turn the amplifier gains all the way down. Turn the source unit volume up until distortion is audible and then turn it down a bit until the distortion is inaudible. This will be about two thirds all the way up on most source units. Next, turn the amplifier gain setting until once again distortion is audible and then back it down until the distortion is inaudible.

NOTE: For a more in depth setting procedure, contact ELEVATION AUDIO dealer.

ADJUSTING CROSSOVER (X-OVER)

Model DX500.1 / DX1000.1 / DX2000.1

Turn the crossover adjustment knob all the way down. With the system playing at normal listening level, turn the crossover adjustment knob up slowly until the desired crossover point is achieved.

All Other Models

Placing the switch in the HIGH position sets the amplifier to the High Pass mode, enabling frequencies above the cut-off point to pass, adjustable between 50-250Hz.

Placing the switch in the FLAT position sets the amplifier to the All Pass mode, preventing any crossover adjustment, allowing all frequencies to pass.

Placing the switch in the LOW position sets the amplifier to the Low Pass mode, enabling frequencies below the cut-off point to pass, adjustable between 50-250Hz.

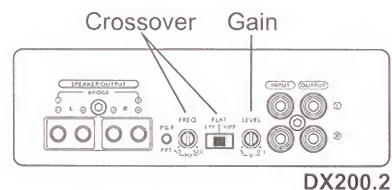
Turn the crossover adjustment knob all the way down. With the system playing, turn the crossover adjustment knob up slowly until the desired crossover point is achieved.

SUBSONIC

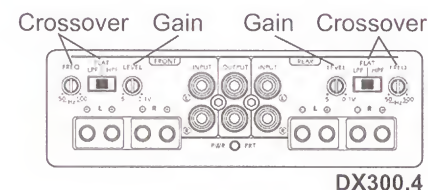
Model DX500.1 / DX1000.1 / DX2000.1

A variable 15-40Hz high pass filter designed to prevent frequencies below the audio range from being applied to the subwoofer from the amplifier.

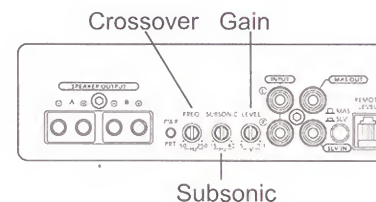
Set this to your personal preference while listening to the system.



DX200.2



DX300.4



Subsonic

DX500.1
DX1000.1
DX2000.1

STRAPPING AMPLIFIERS (DX500.1/DX1000.1/DX2000.1)

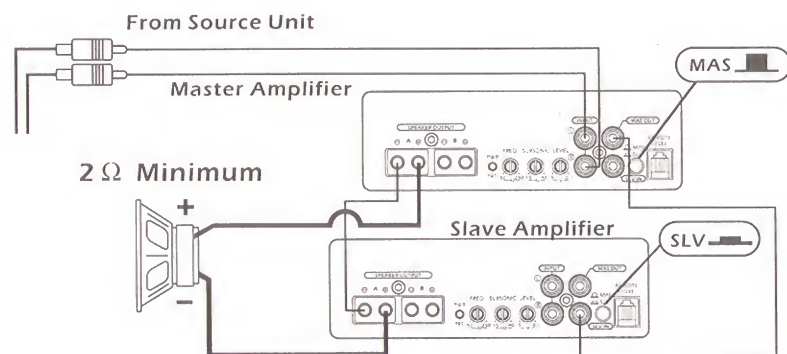
The DX500.1/DX1000.1/DX2000.1 amplifiers have the ability to connect two together and have their outputs combined, or strapped, to power a single speaker load.

CAUTION: Two DX500.1/DX1000.1/DX2000.1 amplifiers that are strapped together are not recommended for impedance loads below 2 Ω.

1. Select which amplifier of the two will be the master. and set the Master/Slave switch in the "out" position.

NOTE: Only adjustments made to the master amplifier will effect the output to the connected speaker.

2. Connect RCA cables from the source signal to the input connection on the master amplifier.
3. Set the Master / Slave switch on the slave amplifier to the "in" position.
4. Connect a RCA cable from the MAS OUT connector on the master amplifier to the SLV IN connector on the slave amplifier.
5. Connect one of the negative (-) speaker outputs from the master amplifier to one of the negative (-) speaker outputs on the slave amplifier using a 10 gauge wire (minimum).
6. Connect one of the positive (+) speaker outputs from the master amplifier to the positive (+) terminal of the speaker being use.
7. Connect one of the positive (+) speaker outputs from the slave amplifier to the negative (-) terminal of the speaker being use.



TROUBLESHOOTING

Symptom	Diagnosis	Remedy
Amplifier does not turn on.	B+ or REM not between 10.5 and 15.5 volts or no voltage present	Check the alternator, battery, fuse, and wiring and repair as necessary
Amplifier Noise	Amplifier is not properly grounded.	Check wiring and repair as necessary
(Turn-On Pop)	Voltage spike from source unit is entering amplifier's input	Connect a relay turn-on module to REM terminal if pops are eliminated with no input signal to amplifier
Engine Noise	Noise is radiating into signal cables	Re-route signal cables away from sources of high current

MODEL :	DX500.1	DX1000.1	DX2000.1
Continuous Power Rating (RMS) - Measured at 14.4 Battery Volts			
4 Ω Load Per Channel	200 Watts x 1	350 Watts x 1	700 Watts x 2
2 Ω Load Per Channel	300 Watts x 1	600 Watts x 1	1200 Watts x 2
1 Ω Load	500 Watts x 1	1000 Watts x 1	2000 Watts x 1
Amplifier Fuse Rating (Amp/Type)	(2) 30A / AWG	(3) 30A / AWG	(4) 30A / AWG
Dimensions: Height	2.0" (5.08cm)	2.0" (5.08cm)	2.0" (5.08cm)
Width	10.5" (26.67cm)	10.5" (26.67cm)	10.5" (26.67cm)
Length	12.25" (31.11cm)	15.75" (40.00cm)	17.72" (45.00cm)

MODEL :	DX200.2	DX300.4
Continuous Power Rating (RMS) - Measured at 14.4 Battery Volts		
4 Ω Load Per Channel	75 Watts x 2	50 Watts x 4
2 Ω Load Per Channel	100 Watts x 2	75 Watts x 4
4 Ω Load Bridged (Mono)	200 Watts x 1	150 Watts x 2
Amplifier Fuse Rating (Amp/Type)	(1) 30A / AWG	(2) 20A / AWG
Dimensions: Height	2.0" (5.08cm)	2.0" (5.08cm)
Width	10.5" (26.67cm)	10.5" (26.67cm)
Length	10.24" (26.00cm)	12.25" (31.11cm)

Signal-to-Noise Ratio	>70dB A-weighted
Input Sensitivity	100mV - 5V
Crossover (DX500.1/1000.1/2000.1)	12dB/octave Low Pass only
Crossover (DX200.2/300.4)	12dB/octave High/Flat/Low Switch
Crossover Frequency (DX500.1/1000.1/2000.1)	variable from 50Hz to 250Hz, Low Pass Only
Crossover Frequency (DX200.2/300.4)	variable from 50Hz to 500Hz
Channel Separation	50dB
Subsonic Filter (DX500.1/1000.1/2000.1)	Variable 15 - 40Hz

MODEL : DX500.1 / DX1000.1 / DX2000.1 (2 amplifiers strapped together)

Continuous Power Rating (RMS) - Measured at 14.4 Battery Volts	
4 Ω Load	500 Watts x 1 / 1000 Watts x 1 / 2000 Watts x 1
2 Ω Load	1000 Watts x 1 / 2000 Watts x 1 / 4000 Watts x 1

Specifications subject to change without notice